

ABSTRACT

DISSERTATION: The Co-Requisite Model: A Regression Discontinuity

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Approximately 61% of community college students enter college with weak mathematics skills, which requires these students to enroll in a remedial mathematics course before enrolling in a college-level course (Bailey, 2009). Because of this, less than 25% of students requiring mathematics remediation earn the success of a college credential (Completely College America, 2011). The long remedial course sequence costs students time and money without adequately preparing many of these students for a college-level mathematics course. Alternatives to this traditional developmental course sequence have led to the introduction of new instructional models, including the co-requisite model, in an attempt to help more students be successful.

The co-requisite model provides additional academic support while allowing immediate college-level mathematics course access to students. A college-level course is paired with a second mathematics course used as just-in-time remediation to help students fill in the gaps caused by a lack of basic mathematics skills. This instructional model has been implemented in several colleges/universities across the country with positive results. But, do all students benefit from this model?

This study uses demographic subgroups along with course success to analyze the efficacy of the co-requisite model at Franklin Community College. Logistic regression was used to

understand how different subgroups perform. Regression discontinuity showed the impact of the placement test cutoff score on success for students within five points of that cutoff score. After five semesters of implementation of the co-requisite model, pass rates within the gateway mathematics course increased 36.5%. Over 70% of students who required mathematics remediation, who were once lost in the long remedial course sequence, are now passing the college-level mathematics course in their first semester. Students scoring within five points below the cutoff score outperformed those students who scored with five points above the cutoff score. This exemplifies promise for the co-requisite model.